

N<sup>o</sup> 7441

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## PROVISIONAL SPECIFICATION.

## Improvements in Boots and Shoes

I, ROBERT EDWARD CRETNEY, of 1, Market Hill, Douglas, Isle of Man, Bootmaker do hereby declare the nature of this invention to be as follows:—

The objects of this invention are to provide boots or shoes which shall be softer and more resilient to the feet than hitherto, which shall be capable of supporting the insteps, and which can be made to raise a foot further from the ground, as is sometimes desired.

I in carrying out the invention I form the inner sole with a hollow space or spaces or recess either at the front part, the waist, or the heel, or all of them. The hollow space may be grooved out of the material of the sole or may be formed by blocking over the edges or otherwise. Within the hollow space I dispose small airtight tubes or compartments which may be filled with air, preferably at pressure so as to render the boot very springy. The hollow space is covered in by an outer sole secured by sewing or otherwise preferably to the edges of the inner sole and such outer sole may when desired be formed with a hollow space blocked out or otherwise formed so as to raise the foot off the ground. By making the waist recess deep and the air tube large the instep may be firmly supported without undue stiffness. The front part of the sole, the waist, and the heel may be formed in separate pieces sewed together, each or any of them having a hollow space therein as above mentioned. When air under pressure is used an inlet valve or valves to the air tube or tubes is used to allow the air to be forced in by a pump.

Dated this Twentyseventh day of March 1906.

W. B. JOHNSON,  
Agent.

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## COMPLETE SPECIFICATION.

## Improvements in Boots and Shoes

I, ROBERT EDWARD CRETNEY, of 1 Market Hill, Douglas, Isle of Man, Boot Maker do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement and annexed drawing forming a part of this specification.

The invention relates to boots of the well known type which have pneumatic compartments arranged in the soles and filled with air under pressure and the objects are to provide boots or shoes which while being soft and resilient to the feet shall not be liable to excessive yielding on either side of the foot shall be stiffer in construction, be capable of

*Ordney's Improvements in Boots and Shoes.*

the instep, and which can be made to raise a foot further from the ground as is sometimes desired. In carrying out the invention I arrange the chambers so that at least two of them shall be disposed side by side laterally of the sole and independent of each other.

On the drawing Fig 1 is a longitudinal section and Fig 2 a plan of a boot 5 embodying my invention. I form the inner sole *a* with hollow spaces or recesses *b*, *c*, *d*, at the front part waist and heel respectively. The two latter may if desired be omitted the sole being solid at those parts. The hollow spaces may be formed by blocking over the edges *e* of the sole, and sewing pieces *f*, thereto or they may be grooved out of a thick piece of leather. This 10 renders the boot of very firm construction. *g* is the outer sole secured by sewing or otherwise to the edges of the inner sole or as shown to a welt *k*, sewn to the inner sole. The sole *g*, may be a single sole or when the boot is for a person of unequal length of legs the sole may, as shown, be formed with a hollow space *i*, blocked or grooved out to any depth required to raise the 15 foot off the ground. The hollow space *i*, is provided with an airtight compartment *j* of rubber or other suitable material. *k* are airtight tubes or compartments of india-rubber or other suitable material independent of each other in the recesses *b*, *c*, *d*, which tubes are filled simultaneously but independently with air under pressure and render the boot very soft and springy 20 at least two of the tubes *k* are arranged side by side laterally as shown so that pressure of the foot on one side cannot drive all the air to the other side of the boot. By making the waist recesses deep and the air tube large the instep may be firmly supported without any unduly stiffening the boot. The various tubes or compartments *j*, *k*, contain air under pressure supplied through 25 inlet valves *l*, and inlet tubes *m*, all of which latter lead to a common tube *n* to which a force pump may be connected so that the tubes may be filled simultaneously but independently with air under any desired pressure. Instead of having only two tubes *k* arranged laterally several separate tubes or compartments may be so arranged in the front part *b* of the sole and dangerous 30 rocking of the foot in the boot by excessive yielding at the sides of the sole is prevented. *o* is the usual upper leather. I am aware that tubes or compartments filled with air under pressure or otherwise have been arranged in the soles of the boots and also that valves to enable such tubes to be inflated have been used and I do not make a broad claim thereto. 35

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

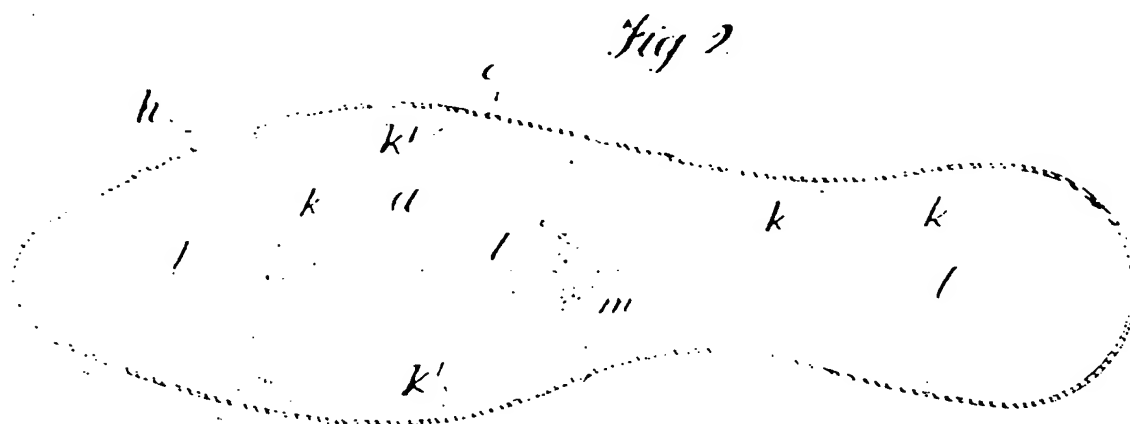
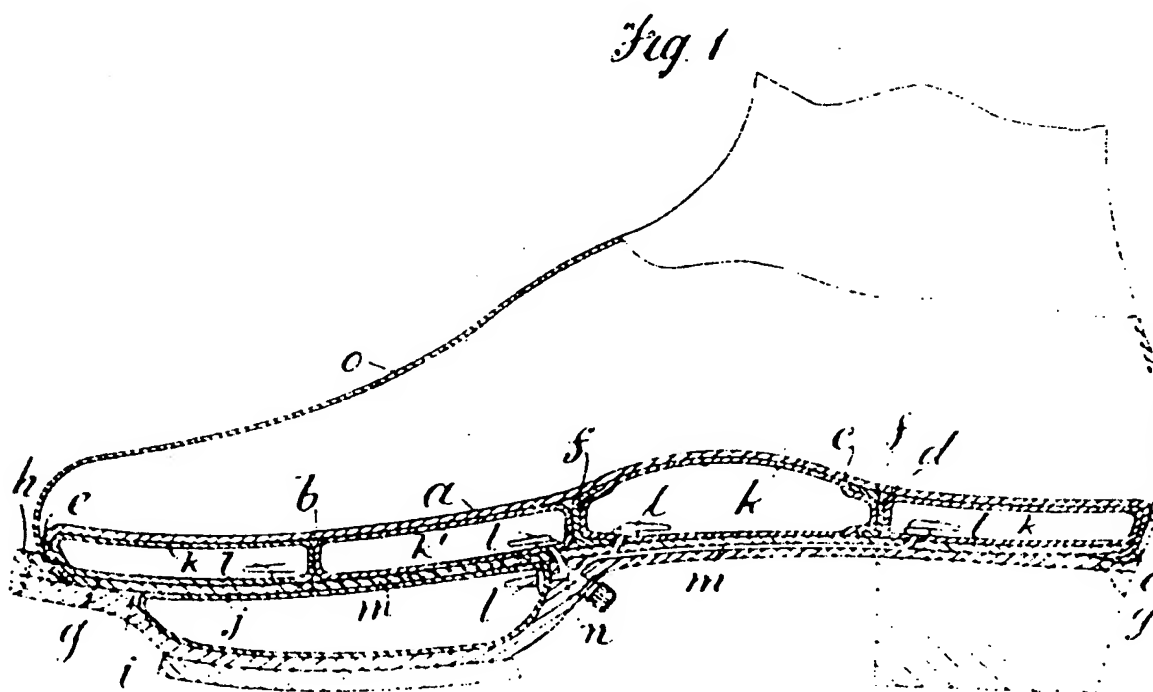
First. In combination in a boot or shoe an inner sole blocked or grooved out to provide one or more recesses several separate and independent airtight 40 tubes or compartments within the recesses at least two of the tubes or compartments being arranged side by side laterally and inflatable simultaneously, an outer sole secured to the edges of the inner sole and an inlet valve to each tube a compartment with branch tubes to the valves to admit air from a force pump at pressure substantially as and for the purposes set forth. 45

Second. In combination with the parts under the first claim an outer sole having a recess formed therein and an airtight tube or compartment within the recess substantially as set forth.

Dated this Twenty-seventh day of September 1906.

W. B. JOHNSON,  
4 Clayton Square Liverpool,  
Agent.

This Drawing is a reproduction of the Original on a reduced scale.



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